

SBIG® AO-X Adaptive Optics

AFFORDABLE TIP/TILT ADAPTIVE OPTICS



The SBIG AO-X fourth-generation tip/tilt adaptive optics solution combines with our SBIG StarChaser SC-4 off-axis guiding camera to provide tack-sharp stars even in less-than-ideal seeing conditions with imperfect telescope mounts. Sub-second corrections re-centre the starlight on the main detector, providing superior results.

This affordable solution is designed for telescopes from 0.3m to over 1m equipped with up to a 3.5"/ 90mm light path. Unlike expensive deformable mirror solutions that require wavefront sensors, laser guide stars, and a lot of back focus, the SBIG AO-X voice-coil technology tips and tilts an optical gimbal to lock starlight on the detector, at rates up to 10Hz, using an SBIG StarChaser SC-4 off-axis guiding camera.

The starlight passes through a 10mm thick plane parallel BK-7 glass plate that is supported on a two-axis gimbal mount. The gimbal can be tilted ± 2.4 degrees using electromagnetic voice coil technology. The tilt in each direction produces a deflection of about ± 144 microns in each direction, corresponding to a correction of ± 16 pixels on an SBIG AC4040 detector. This tilt has no significant focal shift, distortion, rotation, or change in magnification associated with it. The smallest move increment is approximately 1/7th pixel. The window has an anti-reflection coating specified to be less than 1% reflection per surface from 400 to 900 nm wavelength.



Specifications

Dimensions	6.8 x 6.1 x 1.2in (175x154x30mm)
Weight	1 pound 15 ounces (880 grams)
Optical Backfocus	1.051 in (26.7 mm)
Interface	I ² C in/out
Software	MaxIm DL Pro recommended

COMPATIBLE CAMERAS

SBIG AC-4040, AC-4040BSI sCMOS APS detectors

SBIG AC-2020BSI sCMOS APS detector

Third party cameras and suitable mechanical adapters

REQUIRED ACCESSORIES

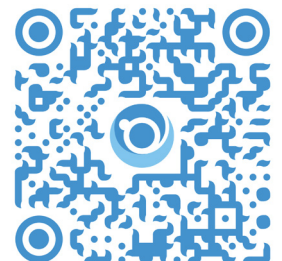
Model	Description
SC-4	StarChaser SC-4 Off-Axis Guide Camera
11066	StarChaser to AO-X adapter cable

OPTIONAL ACCESSORIES

Model	Description
10018	Adapter for 3-inch x 24tpi thread
ACC09	Nosepiece for 3-inch draw tube
ACC06	Nosepiece for 2-inch draw tube

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www.diffractionlimited.com/product/ao-x/